STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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October 21, 2009

Miguel Ortega
13228 NE 20th, Suite 100
Bellevue, WA 98005-2049

Re: Further Action at the following Site:

- **Site Name:** US GSA Federal Center S.
- **Site Address:** 4735 E. Marginal Way, Seattle, WA 98134
- **Facility/Site No.: 10233917**
- **VCP Project No.: NW 2177**

Dear Mr. Ortega:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the US GSA Federal Center S. facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Gasoline-, diesel-, and oil-range petroleum hydrocarbons, benzene, ethylbenzene, toluene, and xylenes into the Soil and Ground Water

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. 2008, *U.S. General Services Administration Groundwater Monitoring Activities, Federal Center South, Former Motor Pool, Final Report,* EHS – International, Inc., November 13, 2008.

2. 2005, *Supplemental Site Characterization, Federal Center South, 4735 East Marginal Way South, Seattle, Washington,* Herrerra Environmental Consultants, Inc., April 7, 2005.

3. 2003, *Independent Remedial Action Report, Federal Center South, 4735 East Marginal Way South, Seattle, Washington,* Herrerra Environmental Consultants, Inc., July 17, 2003.

4. 2001, *Baseline Ground Water Monitoring Report, Federal Center South, 4735 East Marginal Way South, Seattle, Washington,* Herrerra Environmental Consultants, Inc., December 11, 2001.

5. 2000, *Environmental Site Assessment and Ground Water Monitoring, Federal Center South, 4735 East Marginal Way South, Seattle, Washington,* Herrerra Environmental Consultants, Inc., January 7, 2000.

6. 1999, *Underground Storage Tank Site Assessment, Federal Center South, Seattle Washington,* Herrerra Environmental Consultants, Inc., May 3, 1999.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact, Sally Perkins, at 425 649-9190.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site do not meet the substantive requirements of MTCA, as described below.

a. Soil

The Site is located in an industrial/commercial area, and potential exposure pathways include direct worker contact and leaching to ground water.

The Site is also located adjacent to the Duwamish River, and the "natural" Kellogg Island is present within the river directly across from the Site. The island is slightly greater than 500 feet from the Site, and thus excluded from a the terrestrial ecological evaluation under MTCA (WAC 173-340-7491 (1)(c)(i)). However, shoreline habitat exists along the river adjacent to the Site, and a small pocket park is present immediately north of the Site. Whether these habitat areas total 1.5 acres within 500 feet of the Site remains to be determined. If the total is less than 1.5 acres, no further evaluation of terrestrial wildlife would be required.

Soil cleanup levels must therefore be protective of worker direct contact and leaching to ground water, and it remains to be determined whether they must also be protective of terrestrial wildlife.

Method A soil cleanup levels have been proposed for this Site. These cleanup levels are appropriate for protection against direct contact and leaching, but do not take wildlife protection into account, if that is required.

The point of compliance for soil would be all soils throughout the Site.

b. Ground Water

The default highest beneficial use for ground water under MTCA is potable water for domestic supply. However, ground water at this Site is fairly saline, as indicated by conductivities ranging up to 3,500 µmhos/cm, and is not being currently used for drinking water purposes. If the ground water were to be classified as a potential future source of drinking water, there is an extremely low probability it would be used for that purpose given its' proximity to the brackish Duwamish River. Ground water at this Site would therefore be considered non-potable.

Ground water at the Site does discharge directly into the Duwamish River. The highest beneficial use for ground water is therefore protection of surface water beneficial uses.

MTCA Method A ground water cleanup levels are currently proposed for the Site. It has not been shown that these cleanup levels are protective of surface water beneficial uses.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

The cleanup action selected was excavation and off-site disposal of contaminated soil, followed by ground water monitoring. This cleanup action is considered permanent under MTCA and meets the minimum criteria for cleanup actions.

4. Cleanup.

Ecology has determined the cleanup you performed does not meet any cleanup standards at the Site.

Site cleanup was initiated in 1998 with the removal of one 12,000-gallon unleaded gasoline underground storage tank (T8) and a 1,000-gallon waste oil UST (T7). Approximately 170 cubic yards of contaminated soil were excavated and disposed of off-property at that time. Later in 1999, approximately 350 cubic yards were excavated and disposed-of from below the former gasoline dispenser and from around the waste oil UST.

Two areas of contaminated or potentially contaminated soil remain as follows:

> **T8**: No confirmation soil samples were obtained from the eastern edge of the 1998 excavation, nor were any confirmation samples obtained from the 1999 excavation. It is therefore unclear whether residual contamination exists in

these areas. One confirmation sample obtained from the base of the excavation directly below the former fuel dispenser had 120 mg/kg gasoline (T4-4, Herrera 1999). This area was never re-excavated or re-sampled. Other exploratory soil samples obtained west of the excavation showed one with 6,500 mg/kg gasoline-range hydrocarbons at the border of the excavation (GP3-4.5, Herrera 2005).

Well FC9: Ground water samples from this area historically showed elevated concentrations of oil-range hydrocarbons, and 2,600 mg/kg of oil-range hydrocarbons were detected in soil in Probe FC9-S2, one of a series of push probes near FC9. The extent of this oil-range contamination was never determined to the west, nor was the contaminated soil ever cleaned up. Although the area around FC-9 is some distance from the UST excavations, the oil contamination may be considered part of the Site associated with operations of the former motor pool.

Cleanup of the ground water has also not been confirmed. The most recent monitoring data from 2008 showed no detectable hydrocarbons or associated contaminants. All of the wells have also been "clean" (i.e. below Method A) for the last three sampling events (in 2003 and 2002), except for FC9. Oil-range hydrocarbons were measured in this well at 3,300 ug/L in one round, and were not detectable in the other two rounds. Based on this data, at least one more sampling event would be necessary at FC9 to confirm ground water has reached cleanup levels at the Site. Note that this issue will need to be revisited once cleanup levels protective of surface water uses have been developed.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 425 649-7107 or e-mail at mada461@ecy.wa.gov.

Sincerely,

Mark Adams
NWRO Toxics Cleanup Program

ma/kp

Enclosures (1): A – Description and Diagrams of the Site

Enclosure A

Description and Diagrams of the Site

Site Description

The Site is defined as an area of petroleum hydrocarbon contamination associated with two former underground storage tanks and former motor pool operations at Building 12.03 within the Federal Center South complex (the complex). The complex is located at 4735 East Marginal Way South, Seattle, on the eastern bank of the Duwamish River (Figures A and B, attached).

Area Description and History: The Site is located in the Duwamish industrial area. The U.S. Army Corps of Engineers is currently headquartered in the largest building within the complex, and other industrial operations extend both north and south along the Duwamish River shoreline and eastward across East Marginal Way South.

Property History and Current Use: The Site and surrounding area was originally a tidal marsh at the mouth of the Duwamish River. Fill placement has created the current land surface, and the river has been straightened and channelized. The history of development has not been researched for this project, but the complex was reportedly first built for use by Ford as an automobile manufacturing plant. Building 12.03 is apparently being currently used by various non-federal artists as workshops, and was formerly used as a motor pool. One 12,000 gallon gasoline UST, located on the west side of the building, provided fuel for vehicles. A 1,000-gallon UST, also on the west side of the building, was used to store vehicle maintenance fluids.

Physiographic Setting: The Site is situated at on the western side of the Duwamish River valley, fairly close to where the Duwamish River discharges into Elliot Bay. The valley floor is relatively flat and near sea level. The edges of the valley are bordered by steep slopes rising 300 to 400 feet to the top of the adjoining uplands.

Surface/Storm Water System: Most of the property and surrounding area is paved or covered with buildings. Storm water is captured in storm drains and discharged, presumably, to the Duwamish River.

Ecological Setting: Limited wildlife habitat exists along the eastern shoreline of the Duwamish River. More extensive habitat exists in a small park located immediately north of the Site, and in the larger Kellogg Island situated mid-stream across from the Site. The island is about 700 feet from the Site.

Geology: Shallow geologic conditions at the site consist of about 7 feet of black sand fill overlying alluvium deposited by the Duwamish River. The alluvium generally consists of interbedded sands, silts, and silty clays. At the Site, it consists of silty clay to at least 15 feet below land surface, the maximum depth explored.

Ground Water: Ground water occurs within the base of the fill and in the underlying alluvium under generally unconfined (water table) conditions. The depth to water varies seasonally and with the tide, ranging from 5 to 6 feet below ground surface. Ground water flow directions are to

the west towards the river, except at high tide when some flow reversal occurs in the northwestern portion of the Site.

Extent of Contamination - Soil: The Site is defined primarily by gasoline- and oil-range petroleum releases to soil and ground water, although diesel was also detected. Lead and the other fuel additives or oxygenates have not been detected at the Site. The releases to soil occurred in two primary areas – near the12,000 gallon gasoline UST (T8) and associated dispenser, and near the 1,000-gallon waste oil tank (T7). The soil contamination extended down a few feet below the water table and laterally 10 to 50 feet from the former UST locations. Gasoline range hydrocarbons were present near T8, and diesel or oil were present near T7.

Another area of oily contamination was also detected near monitoring well FC9. This area is about 130 feet west of the two USTs, and appears to be associated with a separate release. However, it is being considered part of the Site since it was likely a release associated with general motor pool operations.

Extent of Contamination – Ground Water: Shallow ground water contamination at the Site extended from near the former USTs about 200 feet to the shoreline. Oil and diesel contamination was detected downgradient of the former waste oil UST, and gasoline and/or benzene were detected downgradient of the gasoline UST. Benzene and total gasoline-range hydrocarbons were the most consistently detected compounds, ranging up to maximums of 19 ug/L and 2,700 ug/L, respectively. Contaminant levels tended to be above potable cleanup levels (i.e. Method A) until 2001. Since then, they have typically been below except in well FC9. Oil-range hydrocarbons were detected in this well at elevated concentrations (maximum 3,300 ug/L) through 2003, although they have been non-detectable for the last two rounds (4/03, 9/08).

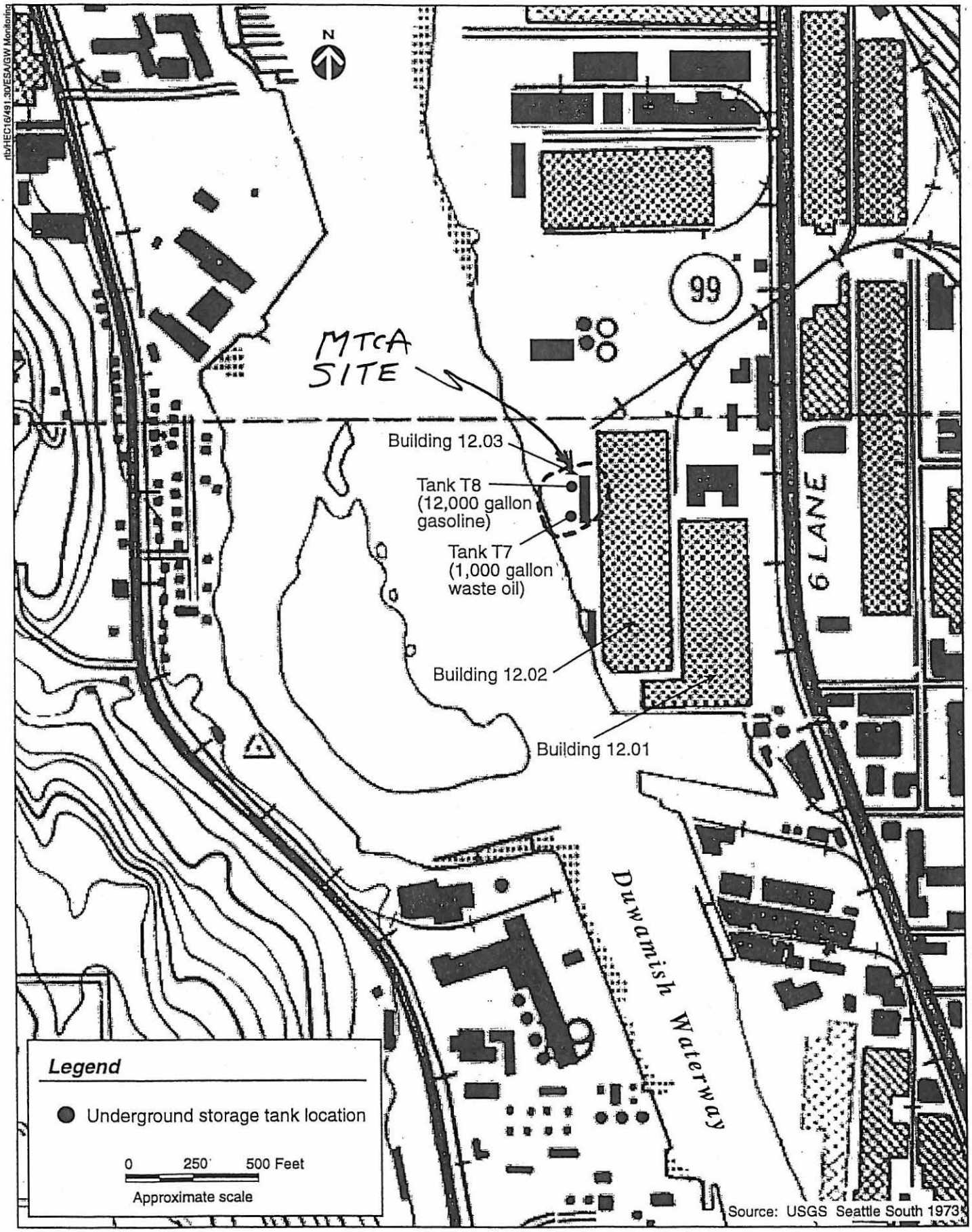

Figure 2. Site location map, Federal Center South, Seattle, Washington.

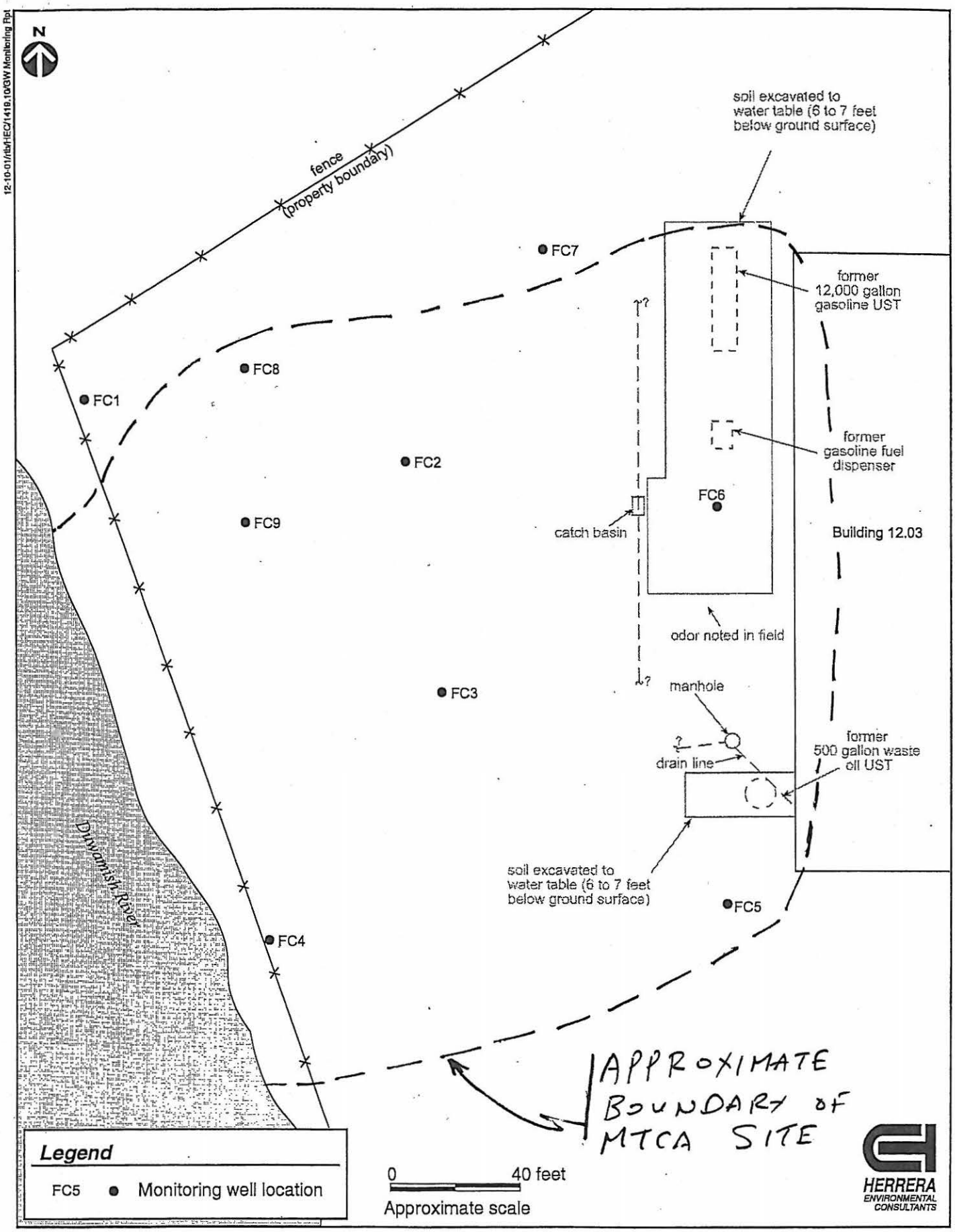

Figure 3. **Monitoring well locations adjacent to building 12.03 at Federal Center South, Seattle, Washington.** M. ADAMS, ECOLOGY 10/21/09